2015 BEST of SHOW TVTechnology

BEST of SHOW TVBEurope 2015

iabm GAME CHANGER AWARDS—2015 FINALIST

Qx
UHDTV

PHABRIX Qx
UHDTV1 / 4K & UHDTV2 / 8K Generator, Analyzer, Monitor

Designed as a complete solution for testing the new UHDTV formats, the PHABRIX Qx features the very latest technology in a new 'future-proof' platform targeted at broadcasters and manufacturers looking for a comprehensive test and measurement solution. The key differentiator of this new instrument is its ability to provide simultaneous generation and analysis tools on signals with up to 48Gbps payloads offering both video and audio instruments.

The Qx comes complete with support for HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI as standard. Two base models are available: one complete with physical layer analysis and one without.

Incorporating the 'World's first' real-time 12G-SDI physical layer analysis tool-set with automatic SMPTE compliance measurements, the PHABRIX Qx enables comprehensive testing for both UHDTV1/4K and UHDTV2/8K infrastructures. Importantly the PHABRIX Qx can present measurements for both overshoot and undershoot along with eye height, rise time and fall time - compulsory when verifying SMPTE compliance and a key differentiator with Qx technology. With an analogue front end bandwidth in excess of 30 GHz, the Qx is perfect for 12G-SDI eye and jitter testing.

The PHABRIX Qx supports both generation and analysis of UHDTV signals simultaneously - a must have for closed loop testing and a standard feature on the Qx. The low noise floor of the Qx generator sets a benchmark standard for quality testing of the new standards.

With 4 x 12Gbps BNC inputs and 4 x 12Gbps BNC outputs the platform is able to support UHDTV standards up to 4320P60. In addition two fully connected SFP+ cages provide support for both 12Gbps optical SDI SFPs and 10GbE SFPs for the testing of IP based infrastructures. A range of format options will be available including SMPTE 2022-6.

The Qx is controlled using an intuitive user interface consisting of mouse, keyboard and 1920x1080 HDMI and SDI instrument outputs. The all new client/server based Qx GUI provides up to 16 simultaneous scalable instrument windows backed by a powerful preset mechanism.

On first release the Qx is focused on support for manufacturers requiring a sophisticated tool set for test and measurement of UHDTV. The Qx is based on FPGA design enabling 'in the field' upgrades of this rapidly developing product.

Support for HDR (High Dynamic Range), WCG (Wide Colour Gamut), HFR (High Frame Rate) and the advanced object based audio formats will be provided as the standards develop.

All registered PHABRIX Qx units come with a 2 year warranty.

FEATURE HIGHLIGHTS

- ALL NEW TECHNOLOGY PLATFORM
- UHDTV TEST & MEASUREMENT
- UHDTV1 / 4K SUPPORT UP TO 2160p120
- UHDTV2 / 8K SUPPORT UP TO 4320p60
- AUDIO (SUPPORTING UP TO 128 CHANNELS)
- 12GBPS COPPER AND FIBRE (SFP) SUPPORT
- 4x 12G-SDI IN, UP TO 48GBPS PAYLOADS
- 4x 12G-SDI OUT, UP TO 48GBPS PAYLOADS
- GEARBOX/COPY/SWITCHED OUTPUT
- LINUX CLIENT/SERVER ARCHITECTURE
- TIMECODE BASED LOGGING
- 20 SCALABLE INSTRUMENTS
- 99 LAYOUT PRESETS
- HDMI 1.4 INSTRUMENT OUTPUT
- SDI INSTRUMENT OUTPUT
- 10/100/1000 ETHERNET CONTROL
- KVM CONTROL

OPTIONS

- REAL TIME EYE/JITTER ANALYSIS TO 12Gbps
- 10 GbE SFP OPTION FOR SMPTE ST 2022-6
- JITTER INSERTION

PHYSICAL

- H: 1U (1.75", 4.4 CM), W: 1/2 RACK WIDTH (8.25", 21 CM) , D: 10.5", 27 CM

*Specifications and features described herein are subject to change without prior notice. Please see www.phabrix.com for the latest data
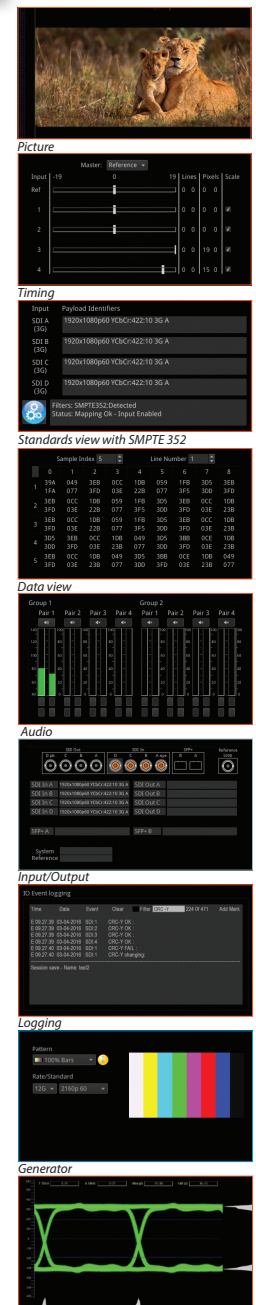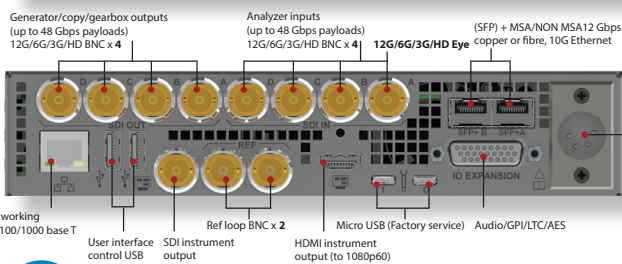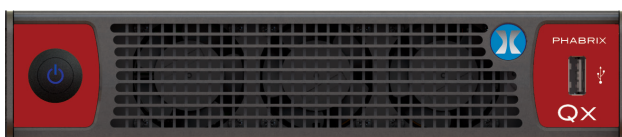
PHABRIX® Qx

UHDTV1 / 4K & UHDTV2 / 8K Generator, Analyzer, Monitor

SAMPLE TOOL SET

DESCRIPTION	Qx 01	Qx 01E
Format agnostic, future proof chassis	•	•
HD-SDI, 3G-SDI, 6G-SDI, **12G-SDI as standard**	•	•
Physical layer tool-set		•
INPUTS		
4 x SDI: HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI 75 Ohm terminated BNC	•	•
12 Gbps eye input x 1 (on one of the 4 12 G-SDI inputs) BNC		•
SFP+ MSA/NON-MSA 12 Gbps copper or fibre, 10 Gbps Ethernet	•	•
OUTPUTS		
4 x SDI: HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI 75 Ohm terminated BNC	•	•
SFP + MSA/NON-MSA12 Gbps copper or fibre, 10 Gbps Ethernet	•	•
GENERATOR		
4 x SDI HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI 75 Ohm terminated BNC	•	•
LOCKING		
Locking reference 2 x 75 Ohm terminated BNC Tri-level or black burst syncs 50/59.94/60Hz	•	•
AUDIO		
AES/Analogue audio/GPI/LTC on 26 pin high density 'D' Type socket	•	•
8 channel 48kHz PCM audio on HDMI and SDI Instrument output	•	•
Internal loudspeaker	Beeper	Beeper
USER INTERFACE		
HDMI 1.4 instrument output, 1920 x 1080, 4:4:4 RGB, Type A	•	•
SDI instrument output, 1920 x 1080, 4:2:2 YUV, BNC 75 Ohm	•	•
User interface control front panel USB 2.0 host port type A socket + 2 rear panel USB 2.0 ports	•	•
NETWORKING		
10/100/1000 base T	•	•
SERVICE		
Micro USB service connection x 2	•	•
UPGRADE		
FPGA firmware/software upgrade via Ethernet/USB	•	•
OPTIONS		
Desktop mounting kit - feet	•	•
19" Rack mount	•	•
10.5"/9.5" Rack mount	•	•
ENVIRONMENTAL		
Power consumption	30W typical -70W	30W typical -70W
4 Pin XLR power connector, 12V nominal (10V-18V)	•	•
AC Power adapter (included), 90-264VAC, 120W	•	•
Dimensions (width x height x depth) excluding projections	253 x 44 x 211 mm	253 x 44 x 211 mm
Weight	1.9 kg	1.9 kg
Warranty (2 year standard increased to 3 - 5 years with Warranty package)	•	•

Picture

Timing

Standards view with SMPTE 352

Data view

Audio

Input/Output

Logging

Generator

Real time Eye pattern up to 12G-SDI

Generator/copy/gearbox outputs
(up to 48 Gbps payloads)
12G/6G/3G/HD BNC x 4

Analyzer inputs
(up to 48 Gbps payloads)
12G/6G/3G/HD BNC x 4

12G/6G/3G/HD Eye

(SFP) + MSA/NON MSA12 Gbps
copper or fibre, 10G Ethernet

Power
10 - 18v

Networking
10/100/1000 base T

User interface
control USB

SDI instrument
output

Ref loop BNC x 2

Micro USB (Factory service)

HDMI instrument
output (to 1080p60)

Audio/GPI/LTC/AES

PHABRIX®

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PHABRIX UHDTV-SDI VIDEO PAYLOADS

	Pixels	Lines	Frames	10b 4:2:2 / 4:2:0 (Gbps)	10b 4:4:4(:4) (Gbps)	12b 4:4:4 (Gbps)	12b 4:2:2(:4) (Gbps)
UHDTV2/8K	7680	4320	120/119.88	80 [8]	160 [16]	160 [16]	160 [16]
	7680	4320	100	67 [8]	133 [16]	133 [16]	133 [16]
	7680	4320	60/59.94	40 [4]	80 [8]	80 [8]	80 [8]
	7680	4320	50	34 [4]	67 [8]	67 [8]	67 [8]
	7680	4320	30/29.97	20 [2]	40 [4]	40 [4]	40 [4]
	7680	4320	25	17 [2]	34 [4]	34 [4]	34 [4]
	7680	4320	24/23.98	16 [2]	32 [4]	32 [4]	32 [4]
UHDTV1/4K	3840	2160	120/119.88	20 [2]	40 [4]	40 [4]	40 [4]
	3840	2160	100	17 [2]	34 [4]	34 [4]	34 [4]
	3840	2160	60/59.94	10 [1]	20 [2]	20 [2]	20 [2]
	3840	2160	50	9 [1]	17 [2]	17 [2]	17 [2]
	3840	2160	30/29.97	5 [1] *	10 [1]	10 [1]	10 [1]
	3840	2160	25	5 [1] *	9 [1]	9 [1]	9 [1]
	3840	2160	24/23.98	4 [1] *	8 [1]	8 [1]	8 [1]

Table entries: Mapped Video Payload (Gbps) [*number of 12Gbps links required]

Format options - contact us for more information